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(54) SLIDE PACK

(71) I, EDWARD MAYLED, a Canadian Citizen of 133 Duke of Kent, Pointe Claire, Province of Quebec, Canada, formerly of 5245 Provence Street, Pierrefonds, Province of Quebec, Canada, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates generally to a slide pack and, in particular, to such a slide pack having an improved means for releasably retaining the components of the pack in assembly.

Known similar packs having a tray adapted to slidably fit in a cover have been developed, such covers consisting of a sleeve having closure flaps situated at opposite ends thereof, the flaps adapted to retain the tray within the sleeve. To remove the tray from the sleeve, it is necessary to open one of the closure flaps manually, thereby exposing the end of the tray to permit its removal from the sleeve. Because of their construction, such covers require the use of additional material and necessitate the performance of extra manufacturing operations in order to provide the closure flaps situated at the opposite ends of the sleeve. In addition, the necessity of opening and closing at least one of the closure flaps renders the use of such packs cumbersome.

The present invention proposes to overcome the drawbacks associated with such known packages by providing an improved package which is of relatively simple construction, as well as being more economical than known similar packages. To achieve this, the invention provides an improved pack with co-operating means to releasably retain the container within the enclosure or sleeve rather than providing the enclosure with closure flaps at its opposite ends.

According to the present invention, there is provided a slide pack comprising a container and a sleeve, the container and the sleeve having dimensions such that the container can be releasably inserted in the sleeve, and having co-operating means on one pair of adjacent walls, the co-operating means comprising projection means situated on one wall of the container and retaining means located in an adjacent wall of the sleeve, the projection means including a surface portion extending outwardly therefrom and comprising two substantially vertical side surfaces and a horizontal top surface, the retaining means comprising an opening situated in one or both side walls of the sleeve, the or each opening having substantially vertical side surface of the surtop edge so adapted as to permit passage of the projection means therethrough, the substantially vertical edges and a horizontal face portion adapted to engage the substantially vertical edges of the opening in order to provide a positive connection between the container and the sleeve during engagement of the projection means and retaining means, and such that depression of the projection means out of engagement with the retaining means must be effected in order to disengage the co-operating means.

According to a further embodiment of the invention, the wall of the container incorporating the projection means is sufficiently flexible to permit disengagement of the projection means with the retaining means located in the respective wall of the sleeve.

The invention will now be described by way of example only with particular reference to the accompanying drawings, wherein:—

Figure 1 is a perspective view of the sleeve and container prior to assembly;

Figure 2 is a perspective view of the container and sleeve when assembled;

Figure 3 is a vertical section of the embodiment according to Figure 2, taken along the line 3—3;

Figure 4 is a vertical section of the embodiment according to Figure 2, taken along the line 4—4; and

Figure 5 is an enlarged perspective view of a further embodiment of a component of the co-operating means of a sleeve and container when assembled.

The slide pack, designated in Figure 2 by

reference numeral 1, comprises a container 3 and a sleeve 5 into which the container can be releasably inserted. The container 3 includes a plurality of compartments 7 for supporting breakable articles such as glass vials. To prevent breakage, each glass vial would be mounted in its own compartment 7.

The container 3 has spaced-apart outer and inner side walls. The outer side walls 9 are connected to the inner side walls 11 by a continuous peripheral top wall 13. The inner side walls are interconnected by bottom wall portions 15. The compartments 7 are defined by partitions 17 which are parallel to the end walls of the container and extend the width thereof. The container is made from a flexible thermoplastics material, thereby permitting the containers to be vacuum or pressure formed in one piece.

The interior dimensions of the sleeve 5 are such as to permit the sleeve to slidably receive container 3 in such a manner as to offer protection to the container and its contents. The sleeve 5 includes a top wall 19 and a bottom wall 21 which are interconnected along their longitudinal edges by opposed side walls 23 and 25. The opposite ends 27 defined by the sleeve 5 are open. The sleeve 5 is made from a single blank of cardboard material which is scored across its width to define the side walls, top wall and bottom wall of the sleeve. Opposite ends of the scored single blank define the side wall 25 and a manufacturer's flap 29, the outer surface of flap 29 being glued to the inner surface of the side wall 25 when forming the sleeve 5. The forming of the recess 5 is carried out in a known manner.

Cooperating means are provided on the container and sleeve in order to releasably retain the container within the sleeve. The cooperating means comprises a projection means 31 which projects outwardly from an outer side wall 9^1 of the container 3, and the retaining means in the embodiment according to Figures 1 and 2 comprises an opening 33 situated in the side wall 23 of the sleeve 5. In the embodiment of Figure 5, the opening 33 also includes a notch portion 33*a* in bottom wall 21 adjacent side wall 23. The notch portion 33*a* facilitates the urging of the projection means 31 inwardly during removal of the container from the sleeve. The projection means 31 is integral with the side wall 9^1 and is slightly smaller but identical in configuration in plan view to the opening 33. When inserted in the sleeve 5, the side wall 9^1 of the container 3 lies adjacent the side wall 23 of the sleeve and an outer portion of the projection means 31 extends outwardly of the outer surface of the side wall 23. The projection means 31 is defined by vertical sides 31*a* and 31*b*, a top surface 31*c*, and an outer surface 32. Engagement between the vertical sides 31*a* and 31*b* of the projection means and the adjacent vertical edges of the opening 33 provides a positive connection between the container and the sleeve, releasably retaining the container 3 within the sleeve 5.

The projection means is situated adjacent the lower edge of the side wall 9^1 to permit the maximum amount of deflection of the side wall 9^1 as the projection means 31 is pressed inwardly, out of engagement with the opening 33. The application of pressure against projection means 31 is facilitated by using a notch portion 33*a*, as shown in Figure 5. In addition, as shown in the drawing, the projection means 31 is located approximately half way along the length of the side wall 9^1 in order to permit maximum inward deflection of the wall 9^1 as the projection means 31 is urged inwardly. The position of the projection means 31 in the wall 9^1 corresponds to the position of the opening 33 in the side wall 23 of the sleeve 5.

When the container 3 is slid into the sleeve 5, in the direction of the Arrow "A" shown in Figure 1, the projection means 31 on the outer side wall 9^1 is urged inwardly by the user in such a direction perpendicular to the side wall 9^1. Since the lower edge 35 of the side wall 9^1 is unsupported, the projection means 31 moves inwardly relatively easily as the container 3 is inserted into the sleeve 5. As a result, slight pressure applied to the projection means 31 by the user permits the vertical edge 31*a* to be bent inwardly of the end of the side wall 23, thereby facilitating the insertion of the container into the sleeve. When the container reaches the position shown in Figure 2 of the drawing, the projection means 31 is aligned with the opening 33, and the side wall 9^1, due to its inherent flexibility, urges the projection means 31 outwardly through the opening 33. In this position, the side wall 9^1 is in its normal position. With the projection means 31 extending outwardly through the opening 33, the container 3 is releasably secured within the sleeve 5.

To remove the container 3 from the sleeve 5, the projection means 31 is urged inwardly by the user, such that the outer surface 32 is situated inwardly of the inner surface of the side wall 23. As the projection means is urged inwardly, the container is pushed at either end toward one or other of the open ends 27 of the sleeve 5.

An outer side wall 9^{11}, opposite from the outer side wall 9^1, is provided with wedges 39 which extend outwardly from the outer surface. Wedges 39 extend the height of the side wall 9^{11} and their width is tapered

inwardly from top to bottom. The outer surfaces of the wedges 39 cooperate with the adjacent side wall 25 in order to align the container 4 within the sleeve 5. The wedges 39 are integral with the container 3 and also serve to reinforce the outer side wall 9^{11} of the container which urges the container 3 towards the wall 23 of the sleeve 5, thereby assisting the retaining of the container 3 in the sleeve 5.

WHAT I CLAIM IS:—

1. A slide pack comprising a container and a sleeve, the container and the sleeve having dimensions such that the container can be releasably inserted in the sleeve, and having co-operating means on one pair of adjacent walls, the co-operating means comprising projection means situated on one wall of the container and retaining means located in an adjacent wall of the sleeve, the projection means including a surface portion extending outwardly therefrom and comprising two substantially vertical side surfaces and a horizontal top surface, the retaining means comprising an opening situated in one or both side walls of the sleeve, the or each opening having substantially vertical edges and a horizontal top edge so adapted as to permit passage of the projection means therethrough, the substantially vertical side surface of the surface portion adapted to engage the substantially vertical edges of the opening in order to provide a positive connection between the container and the sleeve during engagement of the projection means and retaining means, and such that depression of the projection means out of engagement with the retaining means must be effected in order to disengage the co-operating means.

2. A slide pack as claimed in claim 1, wherein the substantially vertical edges of the or each opening extend from the top edge thereof to a longitudinal edge of the adjacent side wall of the sleeve, each longitudinal edge defining a line of separation between the side wall of the sleeve and a bottom wall thereof, the or each opening including a notch portion in the bottom wall of the sleeve, the or each notch portion adapted to facilitate disengagement of the projection means from the opening by permitting a user to apply pressure to a lower edge of the projection means, thereby urging the projection means out of contact with the opening so as to release the positive connection between the sleeve and container.

3. A slide pack as claimed in claim 1, wherein the projection means is situated on one side wall of the container and identical openings are situated in each of the two side walls of the sleeve, the projection means adapted to engage one or other of the two openings, the sleeve also including two open ends whereby the container can be inserted into the sleeve through either open end thereof.

4. A slide pack substantially as herein described with reference to, and as shown in, the accompanying drawings.

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1494313 COMPLETE SPECIFICATION
1 SHEET *This drawing is a reproduction of the Original on a reduced scale*

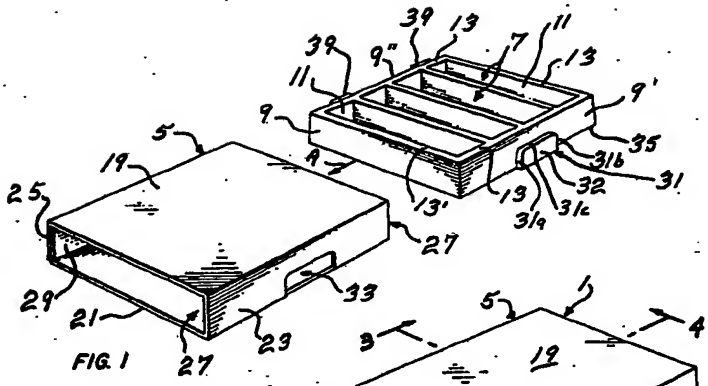

FIG. 1

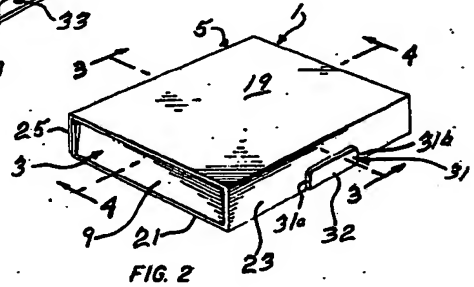

FIG. 2

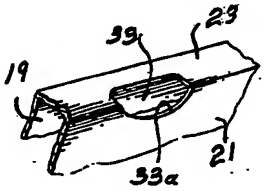

FIG. 5

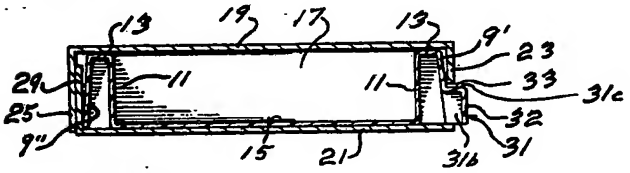

FIG. 3

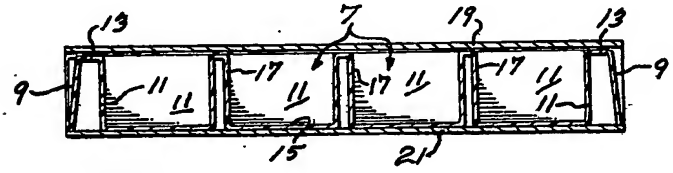

FIG. 4